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EXAMINER
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MORILLO, JANELLE COMBS

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1742

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

**MAILED**

MAR 23 2006

**GROUP 1700**

Application Number: 10/726,181  
Filing Date: December 01, 2003  
Appellant(s): EVANS ET AL.

Christopher C. Dunham  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed January 9, 2006 appealing from the Office action mailed January 25, 2005.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

5,711,827A

SAWADA

1-1998

Brusethaug et al., "The effect of process parameters on the fir-tree structure in DC-cast rolling ingots", (1997) pp 472-476.D.

Altenpohl, Aluminum Viewed from Within (Dusseldorf: Aluminium-Verlag, 1982), pp. 146-147.

### **(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 19-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over “The effect of process parameters on the fir-tree structure in DC-cast rolling ingots” (hereinafter Brusethaug et al) in view of Sawada (US 5,711,827 A).

Brusethaug et al teaches DC casting a rolling ingot (see Title) for offset printing plates (p 472 1<sup>st</sup> column, 1<sup>st</sup> paragraph) of an Al-Fe-Si alloy consisting of 0.26wt% Fe, and 0.13wt% Si, balance aluminum, wherein no grain refiner is added to said ingot (page 473 2<sup>nd</sup> column 1<sup>st</sup> paragraph). Brusethaug et al is drawn to making offset plates without defects such as fir tree structure (see p 472, “Introduction”). Brusethaug teaches that said ingot is a rolling ingot (see title, p 472 2<sup>nd</sup> column), also termed a “sheet ingot” (see p 472, 1<sup>st</sup> column, p 473, 2<sup>nd</sup> column 1<sup>st</sup> paragraph), that is, suitable for rolling into sheet stock.

Brusethaug does not specify: a) forming said sheet ingot into a sheet or b) electrograining the rolled sheet.

Concerning item a), Sawada’827 (who is drawn Al-Fe-Si alloy printing plates, and a method of making said plates) teaches a process of DC casting an ingot (column 5 lines 7-8), and rolling into a sheet product (column 7 line 16), electrograining with an aqueous solution such as nitric acid (column 7 lines 59-62), forming a photosensitive coat thereon (column 9 line 12). It would have been obvious to perform a step of rolling (as taught by Sawada’827) to the rolling ingot taught by Brusethaug et al, in order to reduce the ingot into suitable sheet stock because Brusethaug et al teaches that said ingot is a rolling ingot (see title, p 472 2<sup>nd</sup> column), and

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because Sawada'827 teaches that hot and cold rolling provides suitable reduction to form printing plate sheet stock (see Sawada'827 at claim 1).

Concerning item b), Sawada'827 further teaches electrograining said rolled sheet with an aqueous solution such as nitric acid (column 7 lines 59-62), and forming a photosensitive coat thereon (column 9 line 12). It would have been obvious to perform a step of electrograining (as taught by Sawada'827) to the sheet taught by Brusethaug et al and Swawada'827, because both Sawada'827 and Brusethaug et al are drawn to printing plates, and because Sawada'827 teaches said steps are suitable to prepare an aluminum alloy for a printing plate (see Sawada'827 at column 9 lines 13-18) with good surface and printing performance (Table 6).

Concerning claim 20, Brusethaug does not mention the hydrogen content in said alloy, and therefore Brusethaug is held to teach substantially zero hydrogen is present, which falls within the instant maximum.

Concerning claim 21, the Fe/Si ratio in the Al-Fe-Si alloy example of Brusethaug is 2.0, which does not fall within the instant Fe/Si ratio range. However, Brusethaug teaches that increasing the Fe/Si ratio to at least 3 helps avoid the fir tree zone (page 472, "Effect of Fe and Si content"). It would have been obvious to one of ordinary skill in the art to increase the Fe/Si ratio to above 3, as taught by Brusethaug, in order to help avoid the fir tree zone (page 472, "Effect of Fe and Si content").

Concerning claim 22, Brusethaug et al teaches that DC casting the above mentioned alloy (containing no grain refiner) at speed of 90 mm/min produces an ingot wherein the fir tree zone is not observed (seep 473, 1<sup>st</sup> paragraph).

Concerning claims 23-25, because the combination of Brusethaug et al and Sawada'827 teaches an Al-Fe-Si alloy composition without grain refiner that falls within the instant ranges, as well as a process for making said alloy that is substantially the same as the process in the instant specification (including DC casting at a casting rate of 90mm/min and rolling to form a sheet, see above discussion), then substantially the same properties, such as Fe in solution for the sheet product, Al<sub>M</sub>Fe phase, grain size of the ingot, are also expected to occur.

The examiner asserts that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the appellant and the prior art are the same, the appellant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

#### **(10) Response to Argument**

Appellant's argument that the present invention is allowable over the prior art of record because there is no motivation to combine the cast alloy rolling ingot without added grain refiner taught by Brusethaug with a process of further reducing the rolling ingot into a rolled sheet as taught by Sawada has not been found persuasive. As stated above, it would have been obvious to perform a step of rolling (as taught by Sawada'827) to the rolling ingot taught by Brusethaug et al, in order to reduce the ingot into suitable sheet stock because Brusethaug et al teaches that said ingot is a rolling ingot (see title, p 472 2<sup>nd</sup> column), and because Sawada'827 teaches that hot and cold rolling provides suitable reduction to form printing plate sheet stock (see Sawada'827 at

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claim 1). Though Brusethaug acknowledges two factors are important for achieving a non-streaked surface- elimination of the fir-tree structure (to which Brusethaug is geared toward) as well as a uniform grain structure, one of ordinary skill in the art would still have been motivated to further reduce the rolling/sheet ingot (an intermediate product, clearly intended for reduction into sheets) taught to have no detrimental fir tree zone (p 473, 2<sup>nd</sup> column, 1<sup>st</sup> paragraph). See also related argument below with regard to degree of streaking.

In response to appellant's argument that Sawada does not teach the instant Al-Fe-Si alloy, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). As stated in the rejection above, Sawada is used by the examiner to teach the reduction of ingots into rolled sheet and further electograining said sheet intended for printing plates, and is properly combined with Brusethaug for the motivation stated above.

Appellant's argument that the present invention is allowable over the prior art of record because it is conventional to add grain refiner to Al-Fe-Si alloys for lithographic sheets because said addition promotes a uniform, fine, grain structure, which is beneficial for a non-streaked surface has not been found persuasive. Appellant has not shown that the "large" grains taught by Brusethaug lead to an inferior and streaky structure. It is true that the prior art of Brusethaug teaches "structural streaking can be the result of a non uniform grain structure" (p 472, 2<sup>nd</sup> paragraph) and Altenpolhl (reference attached to appellant's arguments filed 11/4/2004) teaches

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that by virtue of heterogeneities “it is therefore important to avoid coarse grain in all processing steps, including casting, hot working, and intermediate annealing, in order to obtain a finished product with the *most* uniform surface and forming characteristics possible” (p 147, 2<sup>nd</sup> paragraph). However, appellant has not shown conclusive evidence that the sheet ingot without grain refinement taught by Brusethaug clearly results in an inferior lithographic sheet.

The examiner further points out that the instant claims do not require final product properties (such as degree of streaking, etc) that are distinct from the prior art. It is unclear that the degree of streaking obtained by the instant invention is distinct/unexpected as compared to the prior art.

#### **(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner’s answer.

For the above reasons, it is believed that the rejections should be sustained.



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Respectfully submitted,

Janelle Morillo  
March 17, 2006



Conferees:

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